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PRESENT MARINE DEVELOPMENT *of* SALEM *and* BEVERLY MASSACHUSETTS

By FRANCIS B. C. BRADLEE

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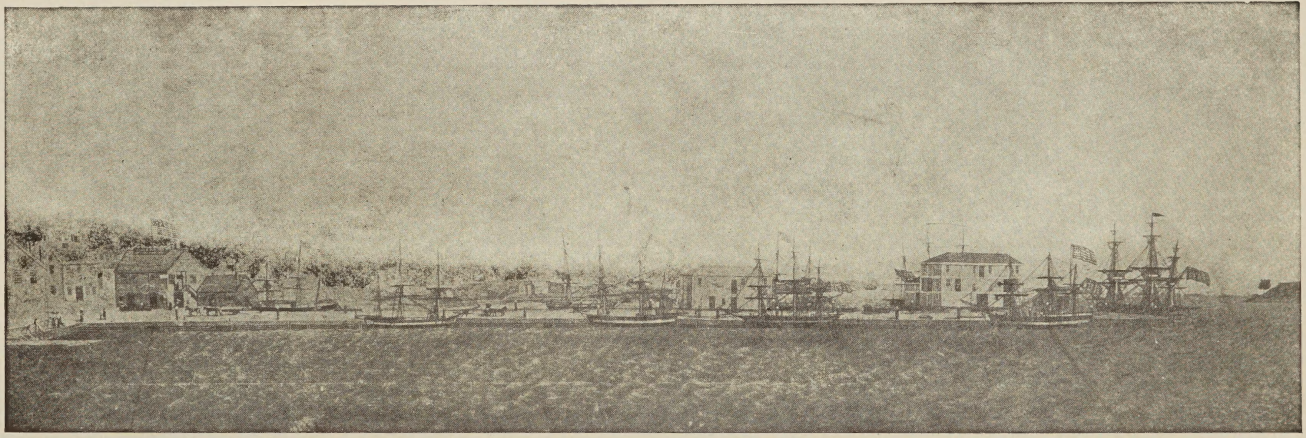

CROWNINSHIELD'S WHARF, DURING THE EMBARGO OF 1807

From a painting by George Ropes, now in possession of the Essex Institute.

Lying near the end of the wharf is the ship "Fame", and at the end of the wharf is the ship "America" afterward the famous privateer

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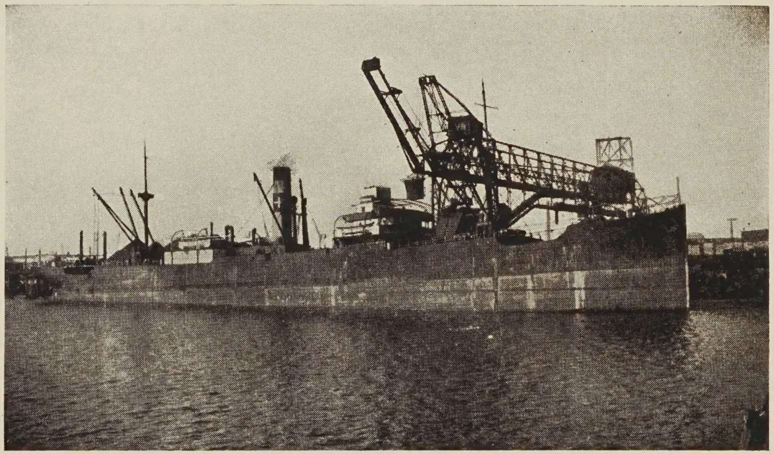
By FRANCIS B. C. BRADLEE

Author of "Blockade Running During the Civil War,"
"Suppression of Piracy in the West Indies," "History
of the Boston & Maine Railroad," and others.

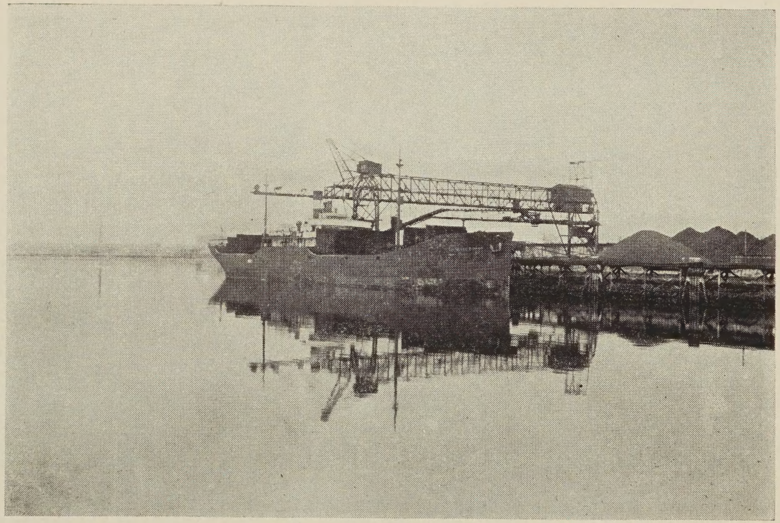
THE ESSEX INSTITUTE
Salem, Massachusetts

Newcomb & Gauss, Printers
Salem, Mass.
1927



DANISH STEAMSHIP "DANSBORG" AT SALEM, MASS., TERMINAL COMPANY PIER, FEBRUARY, 1927.

The first foreign transatlantic steamer to arrive at Salem.



POCAHONTAS COAL CO. STEAMSHIP, "ISAAC T. MANN" AT SALEM TERMINAL
COMPANY PIER, FEBRUARY, 1927

PRESENT MARINE DEVELOPMENT OF SALEM AND BEVERLY, MASSACHUSETTS.

By Francis B. C. Bradlee

SOON after the close of the war of 1812 Salem's foreign commerce began to dwindle, overshadowed as it was by that of Boston and New York. By 1870 it had practically ceased to exist, although a fairly large coasting trade was maintained for many years after. The early years of the Twentieth Century brought many changes in marine transportation which seriously affected what was left of Salem's water borne trade. So that the recent development of the Salem Terminal Co. (an adjunct of the Tenney Service Corp.) was hailed with satisfaction, promising as it does a recrudescence of the old port's marine activities.

Development of the property of the Salem Terminal Company (formerly Phillips Wharf and still earlier Crowninshield's Wharf), on lower Derby Street was finished in 1926. Besides an office building and weighing station, a coal pocket and conveyor apparatus add greatly to the efficiency of the plant in the handling of the large quantities of soft coal which are brought here on Pocahontas Coal Co.'s steamers weekly. Owing to the dredging done by the Terminal Co. there is now 26 feet of water in the channel all the way to their wharf.

The accompanying illustrations display features of the coal-handling business in graphic fashion. There is to be seen one of the steel colliers which carries coal from Norfolk, Virginia to the dock, and directly opposite it, the coal bridge which unloads the coal from the hatches in the vessel and lands it in piles on the ground or carries it to a belt system conveyor that in turn transports it to a coal pocket located on the northeasterly side of the property near the old Philadelphia & Reading R.R. pier.

From the coal pocket, either railroad cars or motor trucks can be loaded with facility and despatch. The trucks convey coal to neighboring plants of the Tenney system, while the railroad cars transport the soft coal via the Salem and Lowell branch of the Boston & Maine R.R. to points as far distant as Manchester, N. H., and Fitchburg, also intervening points. The great Amoskeag Mills at Manchester, N. H., are supplied with soft coal from the Terminal Co. plant.

Following is a description of the coal-handling plant of the Terminal Co. by George P. Carver, Inc., of Boston, builders of the coal pocket and conveyor system, office, weighing station, etc.

Description of the Plant: The plant equipment consists of a travelling Gantry Bridge on a 260-foot span, designed and erected by the Watson Company of Milwaukee, Wis., electrically operated, using a three-ton grab with a breaking down capacity of 400 tons per hour. The coal is discharged from the grab bucket into a hopper in the front of the bridge and fed by a reciprocating feeder to an incline belt conveyor which carries the coal back over the field storage. This belt discharges either direct to field storage or to a reversible shuttle belt conveyor which discharges either to field storage or to a belt conveyor in the rear of the bridge and paralleling the rear bridge rail, which feeds the pocket conveyor.

The coal is reclaimed from field storage with the grab bucket which dumps into the hopper at the front end of the bridge or to a hopper at the rear. The coal is fed from the rear hopper conveyor paralleling the rear bridge rail and then to the pocket conveyor.

The coal is fed onto this cross conveyor in the rear of the bridge, through a traveling hopper which is attached to the bridge and this cross conveyor carries the coal to and feeds onto an incline conveyor of the same size and capacity which carries the coal up to the top and into an elevated timber pocket with a capacity of about 1700 tons.

The cross conveyor is a 36-inch seven-ply Goodyear rubber belt, 1350 feet long, traveling at 400 feet per minute and having a carrying capacity of 400 tons per hour. This belt conveyor is so arranged that it can be reversed and is equipped with a drive rig at each end, it being the intention to install another belt conveyor from this existing conveyor into a proposed power plant.

Incline Pocket Conveyor: The incline belt conveyor to the pocket is a six-ply, 36-inch Goodyear rubber belt, 500 feet long, with the same capacity as the cross conveyor belt and is fitted with a traveling tripper which completely fills the pocket without trimming.

The Pocket: The pocket is of hard pine timber construction, 64 feet long, 39 feet wide and 64 feet high with a floor of proper elevation to allow chuting into coal cars.

The pocket is so arranged as to fill large trailer trucks on one side, and in a driveway under the pocket, and cars on the rail side.

The foundation of the pocket is of concrete and of the Caisson Pile type carried 25 to 28 feet to reach hard-pan.

All the timber work of the pocket is treated with wood preservative and the super-structure is covered with asbestos shingles to meet city building requirements.

In unloading a steamer, as much as possible of the coal is run directly into the pocket and fed directly to trucks and cars, rather than being put into field storage, to eliminate the additional expense of handling in connection with reclaiming from field storage.

The plant has been in operation since the beginning of 1926 and has handled over 1000 to 1500 tons of coal per day "run-o'-mine," slack and bituminous coal.

Office: The office building is a brick structure on a concrete foundation with a 30-ton and 20-ton Howe truck scale installation. The lower portion of the office is used as a weighing room and the upper part for bookkeeping and clerical work.

Foundation Work: The foundation conditions, in connection with this construction work, are unusual, as the area on which these structures were erected was open water but a short time previous to starting the work and had been filled by the hydraulic method to a depth of from 12 to 15 feet requiring unusual care in the construction of the footings and foundations to insure stability to the superstructures.

Power: The conveyors are operated by electric motors with silent chain drives and have proven to be very efficient from the standpoint of operating expense per ton of coal and very quiet in operation.

In the first week of February 1927 three steamers arrived at Phillips Wharf during four days, according to Salem Terminal Corporation officials. The first of these three was the "Newton" which carried a load of gas coal and which marked the first time that the product was received at this wharf. Her cargo was 6000 tons. She was followed by the "Isaac Mann" with 8000 tons of soft coal, one of the largest shipments ever received in Salem. While the "Isaac Mann" was being unloaded the "Freeman" anchored in the lower harbor waiting to bring in its shipments of 5000 tons.

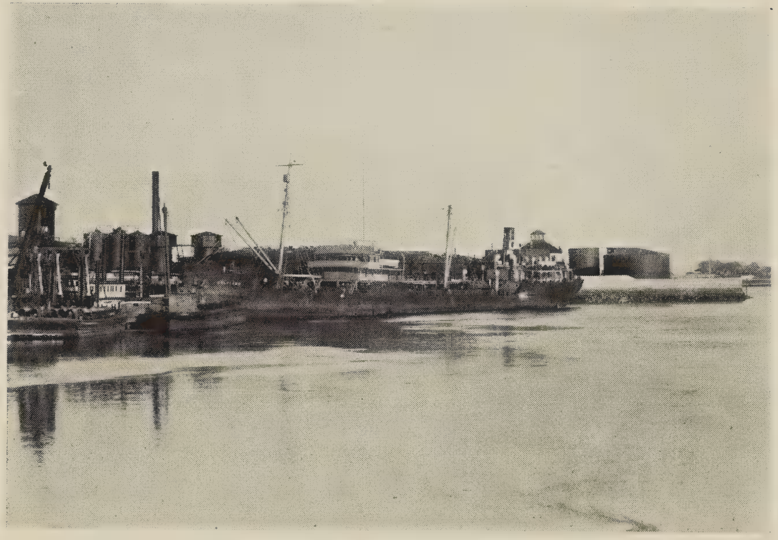
Coal operations in Salem during the month of February 1927 reached a high peak, according to reports issued. Total figures for both soft and anthracite coal reached 44,789 tons, which is one of the largest handlings for many years. The average handling per day was 1600 tons.

Of this amount, 43,349 tons of soft coal were received by the Salem Terminal corporation at Phillips wharf, and the remainder, 1440 tons of the anthracite product was billed for the Pickering Coal Co.

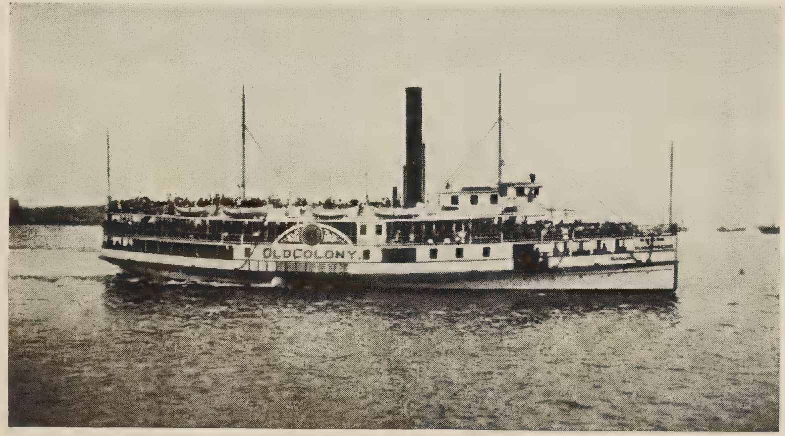
Incidentally, the Terminal corporation shipped through the local distribution station 35,024 tons of coal to various parts of the state and distant points in New Hampshire, an increase of 13,500 tons over the same period last year.

Continued activity at the Terminal wharf is expected due to the increasing manufacture of briquette coal in the new plant. Practically all preliminary work has been completed and the coming program includes the manufacture of hundreds of tons of this product a day.

Besides the arrivals noted above, the Danish steamer "Dansborg" of 4000 tons, reached Salem on January 24, 1927, direct from Swansea, Wales, with a cargo of Welsh anthracite coal consigned to the Salem Terminal Corporation. She was the first arrival from a foreign port for many years, and is believed to have been the first transatlantic steamer sailing under a foreign flag ever to enter the old harbor. The event was celebrated by a banquet of the City Government and Chamber of Commerce at the Hawthorne Hotel.



GULF REFINING COMPANY'S STEAMSHIP "GULFLAND" LYING AT BEVERLY
MARCH, 1927.



SALEM — BOSTON — NANTASKET BEACH STEAMBOAT 'OLD COLONY'', 1926.

The "Dansborg's" cargo of 5600 tons was intended to be made into "briquettes" by the Salem Briquette Co. whose plant is also located on Phillips Wharf.

In March, 1927, the Danish steamers "Kentucky" and "Maine" reached Salem direct from Swansea, Wales, with large cargoes of coal and it is expected there will eventually be a foreign arrival every three weeks. In order to facilitate the entrance to Salem bay and harbor in all weathers, the Lighthouse Board are to place a range light in the steeple of the Baptist Church at Beverly and new buoys are also to be laid down.

The first steamer ever seen in Boston, the "Massachusetts," had been built, in 1817, to run between Boston and Salem, and for many years in the past, passenger steamboats had plied between Salem Willows (a summer resort situated at the entrance of Salem harbor) and Boston. The development of the trolley cars and particularly the automobiles had put an end to the traffic.

It was due to the courage and progressiveness of the Nantasket Beach Steamboat Co., that the fine side wheel steamboat "Old Colony" of 800 tons was in June, 1926, placed on the run between Boston and Salem Willows. Some of her trips were to Boston direct, others were made to the well known South Shore seaside resort, Nantasket Beach, thus affording tourists a fine view of both the North and South Shores. Encouraging results followed the first season's business and it is understood the line will be continued and developed.

The city of Beverly (the home of the United Shoe Machinery Co., the Gulf Refining Co., and numerous shoe factories) is separated by a narrow arm of the sea from Salem and a bridge connects the two places.

On the Beverly waterfront, the Gulf Refining Company and the New England Fuel and Tranportation Company have provided terminal facilities and docks for unloading steamers and reshipping their products by rail and motor truck throughout northern New England. The harbor also accommodates the shipping of coal and lumber firms.

Before the present improvements were undertaken, the prevailing depth of the channel was 18 feet at mean low tide, with a 9-foot rise. As many of the steamers making Beverly a port of call require up to 24 feet of water, it was not infrequently necessary for them to wait for high tide on entering and on leaving the harbor. This often caused a delay of 24 hours and more on one trip. Considering the fact that the cost of operating these vessels amounts to as much as $60 per hour, it can be appreciated that these delays are expensive.

The improvements include the straightening of the channel by cutting across a sand bar and by deepening to a grade of 24 feet below mean low water.

The Gulf Refining Co.'s plant in Beverly was started in 1903; the oils received there (59,092,045 gals. in 1926) are the finished product, the refining being done at Port Arthur, Texas. Some one of their following fine large tank steamers arrive weekly at Beverly from Port Arthur:

"Gulfstate"	7216	gross	tonnage
"Gulfprince"	6560	"	"
"Gulfoil"	5188	"	"
"Gulflight"	5188	"	"
"Gulfstream"	5188	"	"
"Gulfcoast"	5188	"	"
"Currier"	4711	"	"
"Ligonier"	3737	"	"
"Winifred"	2551	"	"
"Trinidadian"	2450	"	"
Motorship "Gulf of Venezuela"	6661	"	"

During the year 1926 56 coastwise steamers and one motorship entered and cleared from Beverly and 35 of these were consigned to the Gulf Oil Co. There were also 6 arrivals from foreign ports; the German steamer "Eilbek," Norwegian steamer "Gezina" and British steamers "Clintonia," "Pencisely," "Hillbrook" and "Hillglade," all coal laden. Six Canadian schooners also arrived at Beverly during 1926 bringing 779,000 feet of lumber.

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